book which for lack of space must pass unnoticed, but the above are probably the most glaring examples.

After such defects as have been discussed it seems almost hypercritical to mention minor blemishes, but it may be pointed out that proper names are often misspelt, and this is the case even with the names of such well-known New Guinea worthies as the Rev. Dr. Lawes. The frequency with which such slips occur suggests that the author may again be travelling, or at any rate that he has not had the opportunity of revising his book. The get-up of the book is good, and where the plates are not imaginative they are often interesting, as is the case with those facing pp. 108, 120, 144, 176, 236, and 244.

C. G. SELIGMANN.

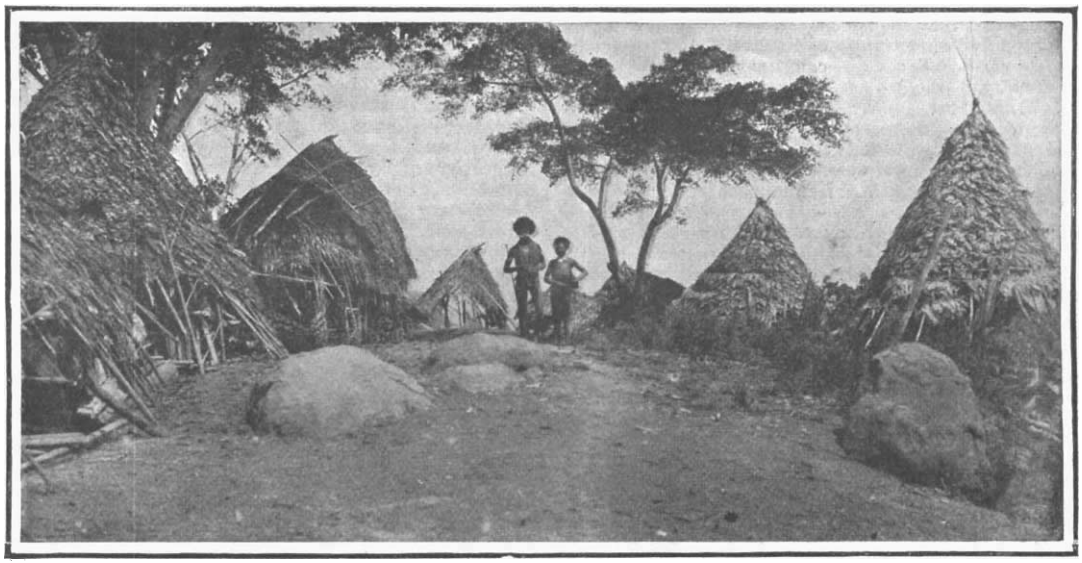

FIG. 1.—The native village of Dinawa. From "Two Years among New Guinea Cannibals."

THE ROYAL SOCIETY CONVERSAZIONE.

ON Wednesday of last week, May 9, there was a large assembly at the Royal Society on the occasion of the first of the two conversaziones held annually in the society's rooms at Burlington House. The guests were received by the president, Lord Rayleigh, and included, not only leading men of science, but also representatives of other branches of intellectual activity and national interests. There were numerous exhibits of objects and apparatus illustrating recent scientific work, and the following notes will give an indication of their character. Descriptions relating to exhibits belonging to the same departments of science have so far as possible been brought together. During the evening lantern demonstrations were given by Mr. G. W. Lamplugh, F.R.S., on the Batoka gorge of the Zambezi river, and by Prof. S. P. Thompson, F.R.S., on the electric production of nitrates from the atmosphere. For an account of the Batoka gorge reference should be made to a paper by Mr. Lamplugh in NATURE of November 30, 1905 (vol. lxxiii., p. 111); and the subject of Prof. Thompson's lecture will be found dealt with in NATURE of February 8, 1906 (vol. lxxiii., p. 355), and p. 65 of the present number. In several other cases descriptions of instruments and other objects exhibited have already appeared in the columns of NATURE, and references are given to them in the subjoined summary of the official catalogue.

Mr. T. E. Heath: Stereoscopic star charts and spectroscopic key maps.—*Rev. A. L. Cortie:* Photographs of the solar corona, 1905, August 30, taken at Vinaroz, Spain, with a 4-inch lens and 20-feet coronagraph.—*The Solar Physics Observatory, South Kensington:* (1) Photographs illustrating the eclipse camp at Palma, Majorca (August 30, 1905), and some of the results obtained. (2) Examples of stellar spectra taken with the 6-inch two-prism prismatic camera. (3) Some photographs taken with the spectroheliograph. These include a "disc" photograph taken on August 31, 1905, the day after the total solar eclipse of that year. (4) Curves to illustrate long-period barometric changes in operation in India, East Indies, Australia, and South America. They show the possible evolution of the nineteen-year variation in Australia from the eleven-year (about) variation in India, and the relation of the Australian to the South American changes. (5) Photographs and diagrams illustrating recent work done on the orientation of some British stone circles.—*The Royal Astronomical Society:* Six photographs of the Milky Way taken in 1905 by Prof. E. E. Barnard at Mount Wilson, California.—*The Astronomer Royal:* Photographic prints of the total solar eclipse of 1905, August 30, from negatives taken at Sfax, Tunisia.—*The Director, Meteorological Office:* (1) Antarctic meteorological records with charts and diagrams prepared in connection with the discussion of the results of the Antarctic expeditions. (2) Some recent meteorological results. (*a*) Meteorological charts of the Indian Ocean and Red Sea for the month of May, showing average winds, currents, and other meteorological information, including a reproduction of the chart for May of the tracks of hurricanes prepared by the late Mr. C. Meldrum, F.R.S. The chart is the first of a monthly series to be issued by the Meteorological Office for the use of seamen. (*b*) Diagram exhibiting the relation between Admiral Beaufort's numbers for wind force and the corresponding wind velocity and wind pressure.

Mr. R. Kerr: A torsion spring for transference of energy. (Exhibited on behalf of Prof. L. R. Wilberforce, of University College, Liverpool.)—*Mr. Joseph Goold:* Vibration experiments. Two distinct systems of vibration in the same steel plate are tuned closely to the same pitch. When either system is excited the other also becomes active; and their respective intensities go through a variety of fluctuations, producing remarkable disturbances of the compound node-lines.—*Prof. G. Forbes, F.R.S.:* Model of naval gun-

sight, giving correct elevation for any variations of muzzle velocity, air density, and time of flight, as arranged for the 6-inch B.L. gun, Mark XI., under construction at Elswick for trial on H.M.S. *Africa*.—*Sir James Dewar, F.R.S.:* Metallic jacketed vacuum vessels. In these metallic vessels filled with liquid air the vacuum is produced by the use of cooled charcoal. The envelopes may be made of brass, copper, nickel, or tinned iron, with necks made of a bad conducting alloy. The necks can be covered with silvered glass vacuum cylinders which act as stoppers and at the same time utilise the cold of the slowly evaporating liquid. The efficiency of the best metallic flasks is equal to that of the average silvered glass vacuum vessels now generally used in low temperature investigations. Vessels of this type may be useful in industrial cryogenic operations and for the storage and safe transit of liquid air and oxygen.—*Mr. C. V. Boys, F.R.S.:* A gas calorimeter (see vol. lxxiii., p. 354, February 8, 1906).

Mr. G. F. Herbert Smith: A refractometer for liquids. By means of this instrument the refractive indices of liquid and semi-liquid substances may be easily and quickly determined in sodium light to the fourth place of decimals.—*Prof. W. F. Barrett, F.R.S.:* Entoptiscope, for the self-examination of obscurities and defects within the eye.—*Sir William Crookes, F.R.S.:* (1) The ultra-violet spectra of the metals, photographed with a quartz train of five double prisms. The spectrum of pure iron used as a standard. (2) Stereoscopic photographs, taken by Sir W. Crookes on the occasion of the visit of the British Association to South Africa in the autumn of 1905.—*Lord Blythswood:* Photographs of certain arc spectra. The spectra were produced by means of a Blythswood concave diffraction grating, the work being undertaken as a practical test of the gratings. The radius of the grating was 10 feet, the first-order spectrum being photographed. The total length given was about 40 inches, from λ 2100 to λ 7400.—*Dr. W. Marshall Watts:* Binocular spectroscope. The instrument consists of a field-glass, or other form of binocular, in front of the object-glasses of which two exactly similar transparent diffraction gratings are mounted on optically-worked plane glass. As the instrument has neither slit nor collimator it is applicable, in the first instance, only to luminous objects of definite form, such as vacuum tubes. For ordinary observations of flame spectra, or spark spectra, a metal or ebonite plate, with a slit, in front of the Bunsen or spark is employed.—*Mr. Edwin Edser and Mr. Edgar Senior:* Specimens of colour photographs, and photomicrographs. The exhibit included (1) Lippmann spectrum photograph bleached after Neuhauss's method; (2) colour photograph produced by exposing Lippmann film successively to two continuous spectrums, the red end of one being superposed on the blue end of the other; (3) three-colour photographs of coloured objects, including crystals under polarised light; (4) photomicrographs obtained through red, green, and blue colour screens; (5) photomicrographs obtained by the aid of Zeiss apochromatic objective, and other objectives.

Royal Microscopical Society: Micro-Daguerreotypes of blood, milk, and crystals, made by Léon Foucault in 1844.—*Messrs. R. and J. Beck, Ltd.:* Ultimate microscope resolving power with light of different wave-lengths. A specimen of *Amphipheura pellucida* was shown under 1/12 oil immersion 1.25 N.A. A single filament Nernst lamp on a small optical bench was the source of illumination. The beam was split up into a brilliant spectrum by means of a Thorp replica grating, and any portion of the spectrum can be used for illuminating the object. The experiment showed that whereas the diatom is brilliantly resolved with green light, the whole structure is invisible with yellow light.—*Mr. Julius Rheinberg:* (1) Production of achromatic interference bands by the double grating method; (2) photographs chiefly of diatoms, taken by Dr. A. Köhler with the Zeiss apparatus for ultra-violet light.—*Mr. W. Rosenhain:* Improved metallurgical microscope designed for the examination of metal specimens. The base and limb are of particularly rigid construction, and the tube is rigidly attached to the limb. The stage racks on the broad flange of the limb, and is provided with a fine adjustment placed in the line of the optic axis of the microscope. The internal reflectors employed for obtaining "vertical" illumination, instead of being carried on a detachable fitting, are inserted into the tube of the instrument, and are provided with adjusting movements which allow of complete control of the lighting. Special devices for the easy attachment and adjustment of oblique and other illuminators for low-power work are provided, while a detachable bridge can be fitted to the stage so as to adapt it for work with transmitted light. For purposes of photomicrography a focusing motion is provided whereby the eye-piece may be moved relatively to the objective.—*The Director of the National Physical Laboratory:* (1) Photomicrographs of the polished and etched surface of specimens of iron and steel taken during the progress of alternating stress tests, Dr. T. E. Stanton. (2) Photomicrographs, Dr. H. C. H. Carpenter. (3) An apparatus for tests on the strength of materials at very high temperatures, Dr. J. A. Harker. (4) *a*, Picou permeameter (by kind permission of Mr. J. H. Agar Baugh), *b*, Bifilar galvanometer free from zero creep, Mr. A. Campbell.

Dr. P. E. Shaw: An electrical measuring machine (see May 3, p. 22, and vol. lxxii., p. 495).—*Sir Oliver Lodge, F.R.S., and Dr. Alexander Muirhead, F.R.S.:* Wireless telegraphy apparatus for military field purposes. (1) A portable pack-transport set of wireless telegraphy apparatus for military field purposes, available for communications across country for distances up to fifty miles, or 150 miles over sea; with electric valves employed to accumulate the impulses of a small coil and battery, or small dynamo, so as to give discharges of energy only otherwise obtainable from a large and heavy source of electric supply. The arrangement needs no earth connection, nor must it have any when it is required to work over long distances with the greatest efficiency. (2) A vibrating needle point-oil-mercury coherer with telephone receiver.—*Mr. W. Duddell:* Some mechanical and electrical phenomena occurring in the telephonic transmission of speech. The apparatus is intended to demonstrate as curves on a screen the simultaneous movement of the microphone transmitter diaphragm, the current flowing into the telephone line, the current received at the far end of the line, and the movement of the receiver diaphragm when sounds or speech are being transmitted. The similarity of and the difference between these four curves can be examined by the aid of the apparatus, and the distortion and attenuation produced by the resistance, capacity, and self-induction of the line can be demonstrated, as well as the distortions produced by the diaphragms of transmitter and receiver. The characteristic shapes of the curves corresponding to the different vowel sounds and their dependence on the pitch on which they are sung can also be exhibited.—*Mr. L. H. Walter:* New magnetic detector, giving both alternating currents for telephonic reception and continuous currents for recording or visual signals. The detector is a form of differential dynamo in which electric oscillations are made to act upon one armature core only.—*Mr. K. J. Tarrant:* Photographs of electrical discharges, at atmospheric pressure and *in vacuo*.—*Mr. E. G. Rivers:* A new electric heater. The principle of construction departs from that usually adopted. The object in view is to secure a large heating surface at a moderate temperature, and the method exemplified is the use of silicated carbon upon a terra-cotta base, forming an "element." These "elements" assembled together constitute the heater.

Mr. J. E. Stead, F.R.S.: A triple alloy of tin-antimony-arsenic, polished and etched, showing bright curved crystals embedded in a soft matrix or eutectic.—*Dr. G. T. Moody:* Specimens illustrating the indifference of oxygen towards iron in presence of water and the effect of the admission of carbonic acid.—*Messrs. Wallach Bros.:* Oxygen rescue apparatus and other appliances. (1) The "Evertrusty" oxygen apparatus, used by the rescue parties at Courrières, consisting of two oxygen cylinders filled with oxygen, two regenerators through which the vitiated air passes and is regenerated, and which at the same time serve the purpose of ascertaining if the apparatus is in working order prior to use. (2) "Evertrusty" oxygen first-aid case for use in case of carbonic oxide poisoning, or after inhalation of smoke, poisonous fumes, &c., consisting of oxygen cylinder, reducing valve, pressure gauge, bag and mask, with back-pressure valve.—*Dr. O. Silberrad and Mr. H. A. Phillips:* A series of picrates. The salts of picric acid are of interest as having been the probable cause of some of the most

disastrous lyddite explosions on record. The specimens exhibited were in many cases prepared in the course of an exhaustive investigation recently carried out at the research laboratories of the Royal Arsenal. Several of the salts exhibited have never before been prepared, and the majority have never previously been obtained pure or correctly analysed.

Director of the Geological Survey of Great Britain: Geological maps, recently issued by the Geological Survey and Museum.—*Prof. John Milne, F.R.S.:* Seismograms of recent earthquakes. (1) North-south and east-west components of the Formosa earthquake of March 16, 1906. (2) Two components of the Colombian earthquake of January 31, 1906. (3) An enlargement of the terminal vibrations of the upper part of Fig. 2. It shows the extinction of an earthquake in wave groups. Each group has a duration of about 2·5 minutes to 3 minutes, and contains about seven waves. One set of groups may approximately resemble another set of groups. (4 and 5) Open diagrams of the same earthquake. The pendulum which recorded the upper part of Fig. 4 weighs 80lb., and has a period of twenty-five seconds. That which recorded Fig. 5 weighs a few ounces, and has a period of fifteen seconds. Both have recorded the period for the large waves as seventeen seconds. (6 and 7) Open diagrams of the San Francisco earthquake of April 18, 1906.—*Royal Observatory, Edinburgh:* Seismograph records. (1) Indian earthquake, April 4, 1905; (2) earthquake in Siberia, July 23, 1905; (3) earthquake in Calabria, September 8, 1905; (4) earthquake in Greece, November 8, 1905; (5) San Francisco earthquake, April 18, 1906.—*Mr. J. Stanley Gardiner:* Dredged rocks off Providence Coral Reef, 844 fathoms (H.M.S. *Sealark*). These rocks were obtained off the outer slope of a coral reef, half-way between the Amirante Bank and Madagascar. They consist of (1) volcanic ash in various stages of consolidation; (2) manganese nodules round nuclei of ash; and (3) coral rock coated with manganese.—*Prof. Wyndham Dunstan, F.R.S.:* (1) New or rare minerals from Ceylon. Many of the minerals exhibited have been collected during the progress of the mineral survey now proceeding in Ceylon in connection with the Imperial Institute. Others have been found in river gravels sent for examination to the Imperial Institute. These minerals illustrate the wide distribution of thorium in Ceylon. (2) Minerals from Canada.—*Dr. A. S. Woodward, F.R.S.:* Hind limb of the gigantic extinct marsupial *Diprotodon australis* from Lake Callabonna, South Australia.—*Mr. F. J. Lewis:* Late Glacial and post-Glacial plant remains from the Scottish peat deposits and from Cross Fell. The remains were met with during an investigation of the peat deposits in Scotland and on Cross Fell, Cumberland. All the deposits so far examined show definite stratification—each layer has its own set of plants, and very different conditions are frequently shown by strata at different horizons in the same peat deposit.

The Director, Royal Botanic Gardens, Kew: (1) Precocious flowering of plants (exhibited by Mr. W. B. Hemsley, F.R.S.). (*a*) Seedling mahogany tree in flower when about 6 inches high. Leaves simple instead of pinnate; flowers very similar to those of the adult tree. (*b*) Seedling *Ailanthus glandulosa* in flower when about 3 inches high. Leaves trifoliolate instead of multifoliolate; flowers male. (*c*) Lilac flowering from the young suckers, with or without leaves; flowers normal in structure, fragrant. (*d*) Coco-nut flowering on its appearance from the shell of the seed. (2) Exalbuminous grass-seeds (exhibited by Dr. Otto Stapf). The structure of the seed is very uniform throughout the Gramineæ, the presence of a very copious farinaceous endosperm or "albumin" being characteristic of it. A remarkable exception (*Melocanna bambusoides*, which is exalbuminous and at the same time viviparous) was recently described by Dr. Stapf, who has since discovered three more examples of exalbuminous grass-seeds, all in Bambuseæ.—*Prof. Wyndham Dunstan, F.R.S.:* Cyanogenetic plants. The specimens illustrated an investigation conducted by Prof. Dunstan and Dr. T. A. Henry to throw light on the origin of the prussic acid which is produced by certain plants. All the plants shown contain the same cyanogenetic glucoside (dextrose ether of acetone cyanhydrin), which has been named "phaseolunatin." Accompanying it in each plant is an enzyme capable of effecting its decomposition.—*Mr. J. Stanley Gardiner and Mr. H. P. Thomasset:* Photographs illustrative of the vegetation of the Seychelles Islands.

The Marine Biological Association: The habits of some fishes from the inshore waters. A small collection of living fishes from the shore and from shallow water was shown to illustrate the differences in habit and mode of life adopted by different species.—*Mr. Cecil Warburton:* Berlese's apparatus for capturing minute insects and arachnids.—*Prof. W. C. McIntosh, F.R.S.:* Thirteen coloured plates (original) for part iii. of the "British Annelids," to be published by the Ray Society, 1907. These are drawings, from life, of specimens procured from Shetland to the Channel Islands.—*Mr. J. E. S. Moore and Mr. C. E. Walker:* Recent researches in cell-division. (1) Leucocytes lying in cytoplasm of tissue cells in early stage of cancer. (2) First maiotic (heterotype) division in cancer of breast. Division figures in this form of cancer have been supposed to be rare. (1 and 2, joint research with Prof. Farmer, F.R.S.) (3) Specimen showing characteristic permanent forms in chromosomes of first maiotic (heterotype) division. (4) Specimen showing pluripolar mitoses and amitoses in myeloplaxes (bone marrow). (5) Specimen showing division figures in germinal area of lymphatic gland. (6) Specimen showing cells destined to become foot-cells in testis of embryo guinea-pig.—*Dr. Albert A. Gray:* Series of stereoscopic photographs of the membranous labyrinth illustrating the comparative anatomy of the organ. The examples shown were illustrative of Amphibia, reptiles, birds, and Mammalia.—*Dr. G. C. Chubb:* Yolk-nucleus in the oocyte of Antedon. The yolk nucleus of Antedon was shown to be merely a region of the egg-cytoplasm on to which has diffused a part of the material discharged from the nucleolus throughout the growth of the oocyte.

NOTES.

MME. CURIE has been nominated by the council of the University of Paris to succeed her husband, the late Prof. Curie, in the chair of general physics held by him at the time of his death. The nomination has been accepted by the Minister of Public Instruction.

DR. A. C. HADDON, F.R.S., university lecturer in ethnology, Cambridge, has accepted an invitation to give a course of Lowell lectures in Boston, Mass., during November next. He will discourse on racial problems, distribution of culture, and social and religious evolution in Melanesia.

THE Croonian lecture of the Royal Society will be delivered on Thursday, May 24, by Prof. J. N. Langley, F.R.S., "On the Presence of Special Excitable Substances in Striated Muscle and in Tissue Cells."

THE Cleve memorial lecture will be delivered at the Chemical Society by Prof. T. E. Thorpe, C.B., F.R.S., on Thursday, June 21.

PROF. J. B. FARMER, F.R.S., who is giving special attention to parasitic growths, would be glad to receive specimens of such growths. The specimens should be forwarded to Claremont House, Wimbledon Common, Surrey.

MR. R. McG. DAWKINS, fellow of Emmanuel College, Cambridge, has been elected director of the British School in Athens, in succession to Mr. R. C. Bosanquet, lately appointed to the chair of archæology in the University of Liverpool.

ON Thursday next, May 24, Prof. W. J. Sollas will begin a course of three lectures at the Royal Institution on "Man and the Glacial Period." The Friday evening discourse on May 25 will be delivered by Mr. Leonard Hill, on "Compressed Air and its Physiological Effects."